

Abstract

The uniformity of a wet coating on a substrate is improved by contacting the coating at a first position with the wetted surfaces of periodic pick-and-place devices, and re-contacting the coating with such wetted surfaces at positions on the substrate that are different from the first position and not periodically related to one another with respect to their distance from the first position. A coating is applied to a substrate by applying an uneven wet coating, contacting the coating at a first position with the wetted surfaces of periodic pick-and-place devices, and re-contacting the coating with such wetted surfaces at positions on the substrate that are different from the first position and not periodically related to one another with respect to their distance from the first position. These methods can provide extremely uniform coatings and extremely thin coatings, at very high rates of speed. The coatings can be applied in lanes with sharply defined edges and independently adjustable coating calipers. The pick-and-place devices facilitate drying and reduce the sensitivity of drying ovens to coating caliper surges. Equipment to carry out these methods is simple to construct, set up and operate, and can easily be adjusted to alter coating thickness and compensate for coating variation.